Virginia Wildlife

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JOHN N. DALTON, GOVERNOR

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COVER: Turkeys by Durant Ball, Newport News

Editorial

INFLATION

"I don't see how you can do it for $3.00" is a frequent comment we get about *Virginia Wildlife*. Truth is, we can't. As of our December issue the processing, preparation and production cost equalled $4.78 per 12 issues. This breaks down to $2.98 for production and mailing, $1.44 for preparation and $.36 for processing each subscription. Our printing contract for the 1979-80 fiscal year calls for a 6% overall increase. If this holds for all aspects of production, our cost will be $5.07 per 12 issues.

Magazine publishers are facing some of the highest rates of inflation. Paper, up 27% last year and some 200% over the past 10 years, accounts for over one-third of the cost of producing the magazine. Postage, up 850% in the past 10 years continues to rise annually. Labor costs have gone up 75% in 10 years and only through extensive automation has it been kept this low.

Lest you think the staff is sitting back and taking whatever punches industry chooses to throw, we are printing a 32 page color magazine for slightly over half what it would now cost to print the 24 page black and white magazine of 10 years ago. These savings have come in the form of cheaper grades of paper, more economical size, better printing techniques and shrewd contracts. We keep trying, but it is a losing battle.

The bad news is that we must now increase the *Virginia Wildlife* subscription price. As it turns out, our last modest price increase in 1977 was not enough to meet increased expenses. We hope this one will sustain us for a good while, but prospects aren't good. I'm sure, however, that you readers are more interested in getting a good magazine than in listening to our financial woes. We do pledge to maintain quality and keep trying to make *Virginia Wildlife* the best magazine of its kind.—HLG

New Rates Effective July 1, 1979

1 Year	3 Years	10 or More
$5.00	$12.50	$3.00 each

Our new single issue price will be $1.00.

Letters

RODENT OR NOT

We varmint hunters are used to hearing city-oriented media personalities refer to groundhogs as "rodents." but in *Virginia Wildlife?* For shame! Any respectable marmot would cancel his subscription.

Richard W. Becker
College Park, Maryland

EDITORIAL REPLY

I find it disappointing when so fine a magazine would indulge in excesses and exaggerations as in the February, 1979 editorial, "The Hunter." Do you suggest that the kill is a less pleasant but necessary climax to the hunt? Those of us who hunt with a camera would disagree.

Powell Metz
Annandale

SECOND THOUGHTS

We apologize to our readers for the admittedly unreadable type in the February article, "Tackling Your Box." A lack of communication between printer and our office resulted in the error. Bear with us, we'll try not make a similar mistake again!

John Price was responsible for the lovely dog photos illustrating Jeanne Price's "Canine Capters," also in the February issue.

Daisybelle Elkins was the author of "Open House for Raccoons," an article in our February, 1979 issue.

PRAISE FOR VW

If I ever return to Virginia after my transfer to southern California, it will be partly due to my monthly encounter with *Virginia Wildlife.* Your magazine's arrival each month always results in at least a full hour of solitary reminisence and fond recollections.

Larry Mellott
Riverside, California

OUR YOUNGEST FAN

I am ten years old. I just started getting your magazine in November. I enjoy it very much. I just recieved my binder today. I like that to.

J. B. Mason
Gladys

Big Tumbling Creek *Photo by Chester Phelps*

Southwest Trout

Where and how to find the trout in Southwestern Virginia

BY DANNY J. EBERT AND WAYNE SADOWSKI

Trout fishing in Southwestern Virginia is one of the most relaxing and exciting sports anyone can experience. Weekends during trout season are the times to pack up the old rod and reel, grab a quick breakfast, and enjoy some of the most beautiful weather and stream areas anywhere in the state. From the headwater streams of the Blue Ridge mountains to the tributaries of the New River, anglers can enjoy clear water, beautiful trees, sun, and the excitement of angling trout by fly or lure.

Brook, brown, and rainbow trout can be found in Virginia's clear, cool streams. The brook trout is native to Virginia and can be found in many headwater stream areas. These trout commonly inhabit mountain streams or streams running through forested areas. Rainbow and brown trout have been imported into this area — rainbows are from the Rockies, while browns are from Europe. Brook trout can be distinguished from the other species by their white edged lower fins, orange belly, and red, gray or yellow speckled sides. Brownies somewhat resemble brook trout with the exception of the white trimmed lower fins and larger black or orange spots on their sides. Their belly is usually yellowish. Rainbow trout have horizontal stripes on their sides which can be reddish during breeding seasons. The body is also speckled with black spots.

Many anglers know that trout must have cool, clear, well oxygenated water for good growth and survival. Temperatures can rise no higher than 65-75° F. At higher temperatures, fish become disoriented and die. While all three species of trout are found together during various times of the year, the native brookie is the most widely distributed specie in the state. It is found in many of the state's soft, slightly acid headwater streams where the other two species live. Brown trout survive well in the more turbid, slow moving, warmer regions of the trout stream and are very aggressive.

As young, the three species of trout feed mainly on aquatic invertebrates, insects and other stream life. Brookies are insect feeders throughout their lives, while rainbows and browns feed on insects and fish, even young trout, anything that may be available and looks like a good meal. The ability of brown trout to feed on minnows and small panfish has enabled them to out compete brook trout in many areas. This feature also helps them to inhabit the slow moving areas where the other two species cannot survive.

Native brookies seldom reach sizes over 10 or 11 inches, while two or three pound rainbows are commonly caught. The streams are generally very small and only flow with considerable amounts of water in the early spring and fall, when snow melts and rains are common. The reproductive capability of brook trout is very low and to enhance the fishing, rainbows and browns are stocked at various times of the year. The stocked trout seldom establish themselves and most are caught by anglers.

Much of trout fishing occurs in the Southwest Virginia area. This is true mountain fishing country. There are few large bodies of water and large numbers of fishermen. Fishermen who like to work the small meandering streams flowing through some of the most beautiful outdoor scenery in the east can find a private bonanza. Regularly stocked fee fishing streams are also found in this area and offer continuous fishing. The trout are seldom large, but really put up a worthy fight. A couple of good trout streams are Big Tumbling and Little Tumbling Creeks in the Clinch Mountain Wildlife Management Area. These streams have a fee fishing area that is a favorite spot for many anglers. Another good put and take trout stream is Crooked Creek fee fishing area in Carroll County. Its headwaters contain a fine brook trout population. Other popular trout streams in Southwestern Virginia include Whitetop Laurel in Washington County, Big and Little Stoney in Giles County, Big Wilson in Grayson County and South Holston River in Smyth County.

Trout management in Virginia has progressed to a very fine endpoint. Naturally reproducing trout populations are available in many streams; fly fishing is commonly the method of capturing these beauties. In other areas where the water is considered marginal trout habitat, the trout populations are maintained by stocking at frequent intervals during the spring and summer months. This keeps a density of trout that will furnish fishermen with good angling.

It is unfortunate but true that Virginia trout streams do not have the productivity and year-round holding capacity to furnish good trout fishing through natural reproduction and survival. Trout fishing in Virginia as it is practiced today could not exist without the support of an intensive stocking program. Because of the Spring release program, "keeper" trout are placed in many streams reducing the pressure on the native trout populations. About 3/4 of a million trout are released each year in almost 200 trout streams in Virginia. The majority of the fish are two year-olds. This combination of inseason stocking, with preseason releases has proven beneficial in increasing the number of successful fishing days throughout the trout season.

When we go fishing for trout we usually fish the natural trout streams. The challenge of angling those native brookies with flies is just too much to resist. If you are unable to reach the headwater areas, many local streams are frequently stocked just prior to and during trout season. There is nothing that compares to the excitement of catching trout in a clear, cool stream on a lazy, sunshiny Saturday or Sunday. Trout are the best tasting fish I know, whether broiled or baked or even fried, they make a great meal.

Virginia's Forgotten Tribe

BY MATHEW J. BOWYER

The ethnic Indian that inhabited Northern Virginia has vanished. And the vestige of his life only lives in sparse accounts. Indeed, what percentage of our citizenry even knows the name of the Indian which inhabited this area of our nation?

The Iroquois was actually a confederacy of Indians, consisting of six tribes. The original alliance consisted of but five tribes — the Mohawks, Onondagas, Oneidas, and Senecas. This group was called the League of Five Nations. Then, sometime during the period of 1715 and 1722, the Tuscaroras — an Iroquoian clan that had migrated from North Carolina to New York — were formally admitted into the League. Thus the organization was changed into the League of Six Nations.

The Iroquois ultimately, by resorting to warfare as necessary, ranged and ruled the entire eastern seaboard of America, as far south as Georgia. It is estimated, though, that their entire numbers never exceeded 25,000. The descendants today probably are no more than 5,000 — assimilated and unnoticed, except for those settled in reservations located near the Great Lakes and Wisconsin, or enclaves in New York state.

The Indians of Northern Virginia were usually of an ochre color — yellow to reddish brown. They had high cheekbones, an aquiline nose and narrow eyes.

The long, eagle feather bonnet which modern America associates with all Indians was not a part of the dress of these people. They would likely wear a more-or-less skull cap headpiece, but might decorate it with a couple of feathers. The stereotyped Indian warrior with the sides of his scalp shaven, having a ridge of hair from front to back, comes from the Iroquois custom.

Our Iroquois were, quite likely, the most highly developed Indians of the North American continent.

During the colonial period, the Iroquois tribes held the balance of power between the French and English. Importantly, these Indians were most friendly with the English.

None of the Iroquois tribes were allowed to wage war unless it was by unanimous vote of the others. Though basically peaceful, the Iroquois — when at war — were to be mightily feared. Torture and the taking of slaves was acceptable. And, though not all American Indians took scalps, the Iroquois did.

Their tribal customs and cultures bespoke a very civilized society.

It is interesting to note that, quite possibly, "Women's Lib" originated in Northern Virginia — not just a few years ago, but actually with the Iroquois Indians who preceded us.

It is a recognized fact that Iroquois women held positions, same as the men, in tribal councils. It all started about the year 1600 when the women of the Cayuga tribe demanded that they, as mothers of the men, be given a voice in their government. They were the first American women to be granted suffrage. Thus it may seem strange, but it is true, that the local Indian women had more rights than the wives of the European settlers then coming to this country.

It is a shame that, all too often, the original Indian names of places and things have been often lost to posterity. Locally, there are but few Indian place-names — and some of them are geographically misplaced, probably to add a mystical air to a new housing development. For instance, Manitou. The word refers to a "Great Spirit" who was of the Algonquins, living farther north.

Authentic, though, is the street named Cherokee, for that is the name of an Iroquoian tribe of this region, now settled in the Southwestern part of the United States.

Unerring are the Indian-origin names of local bodies of water — Occoquon, Pohick, etc. What is lacking in Northern Virginia, however, is the number of official notices of the Indian activity in our history.

We need more plaques such as State Highway Marker number E-60, located on Route 1, in Fairfax County, 3.2 miles north of Woodbridge. It reads:

"Events on Pohick Creek: Here on Pohick Creek the second George Mason settled in 1690. Here the Iroquois Indians, by a treaty of 1722, agreed to deliver up runaway slaves. . . "

America's Eastern Indian lore needs its rightful place. Annihilated and forgotten, this Indian, unlike other ethnic minorities, has no advocate. More the reason we Virginians should allow his memory a suitable niche in this beautiful area that was originally his.

Photos by Leon Kesteloo

Personalities BY FRANCIS N. SATTERLEE

CARL C. KNUTH (SPIKE)

It is probably a safe assumption to state that a goodly number of humans have nicknames and that the names resulted from some physical attribute, i.e., "Red," "Lefty," and so on. Also on the safe side would be the assumption that the acquisition occurred about teen-age-time. Not so with Carl C. "Spike" Knuth. The way he tells it, he got the name from his father at the first moment the senior Knuth saw him after his birth. "I reminded him of a tough gangster, hence the name Spike." The name stuck and even now most of his friends, associates and peers don't even know that his given name is Carl.

He was born in Milwaukee, Wisconsin and spent his first 14 years in that community. Very early in his childhood his father, an ardent fisherman, detected in Spike and in his brother Rockne and sister Karen a more than average interest in birds, wildlife and fish. This interest was constantly heightened as a number of the family relatives owned property on Lake Okauchee near Milwaukee. The summers that Spike spent "on the lake" exploring the nearby marshes and observing birds that passed through the area, a major flyway, had a lasting impression. As early as grade school he began to draw pictures of the wildlife that he observed and, at first timidly, to display them at school. The favorable response was encouraging and it spurred him on. It was during these early years that his growing interest in fishing and photography enabled him to expand his powers of observation and to sketch with increasing accuracy.

When Spike was 14 years old, the family moved to Fond du Lac, Wisconsin in connection with his father's employment. This was most fortuitous for the town was very close to Lake Winnebago, a 137,000 acre body of water and the world famous Horicon Marsh, both of which attracted enormous numbers of waterfowl.

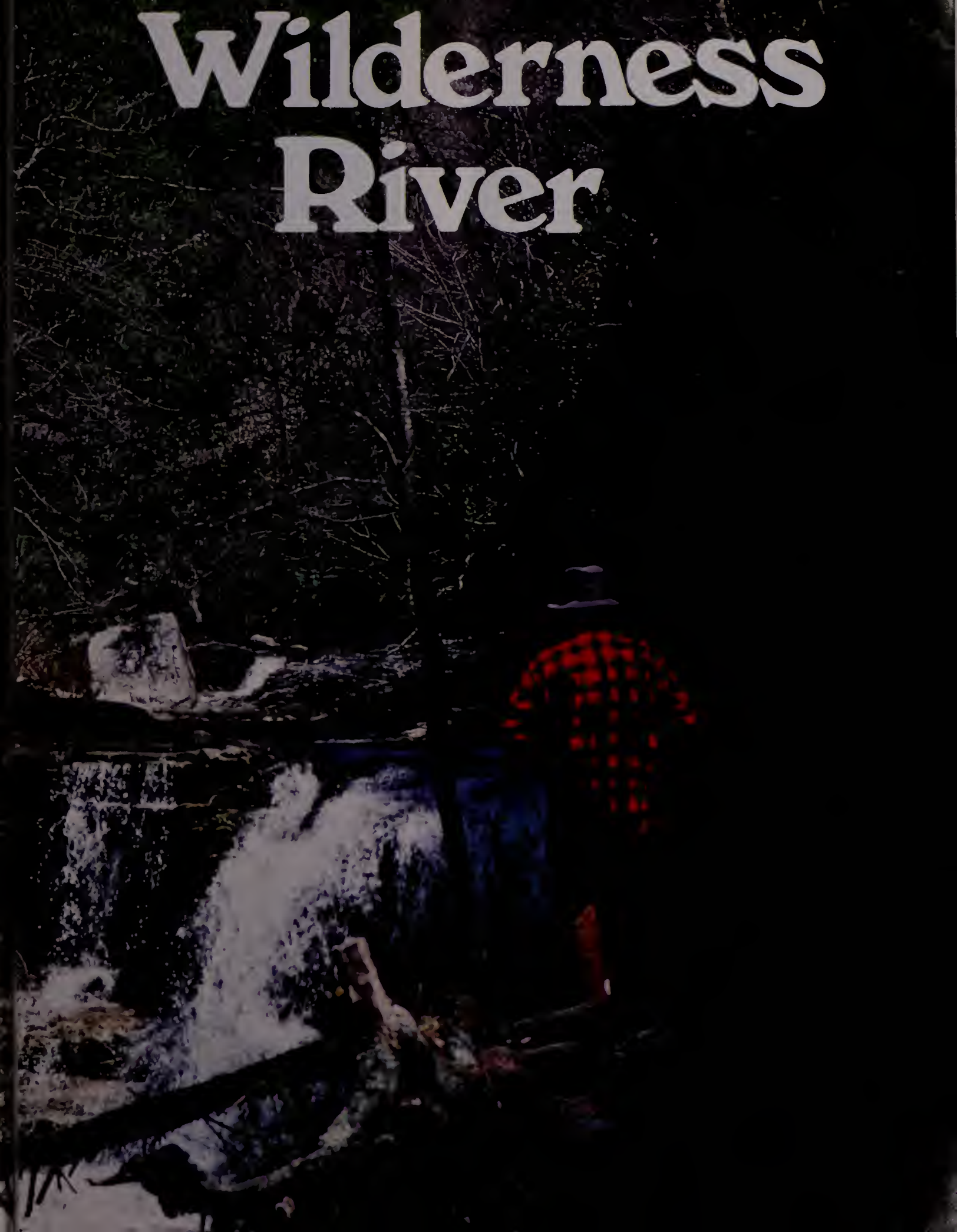
Although these attractive stimuli were present, Spike's interest in wildlife painting waned and ceased. Following graduation from high school, he became employed by Mercury Outboard Motor Company where he worked at a variety of jobs and eventually as a commercial artist with the firm.

In 1962 a young lady named Susie Gusse from Fond du Lac joined the Mercury Company and in September of the following year she and Spike were married. On his first birthday following the marriage, Susie gave Spike a watercolor painting set and with it the incentive to resume painting was rekindled. He finished his first watercolor painting in January of 1964. It was a flock of whistling swans and he traded it for a drawing table which he still uses today.

In February of 1974, after a series of jobs with the news media, a period of free lance work, the production of countless magazine and newspaper articles and the mounting sale of his paintings, he accepted the position of Audio-Visual Supervisor with the Game Commission. Spike is well known for his *Virginia Wildlife* magazine covers, his production of motion pictures and, since 1976, as cohost of the Channel 6 television show "All Outdoors." The show recently changed its name, is now called, appropriately, "Virginia Wildlife," has a 30-minute format and is aired on WTVR-TV in Richmond on Saturday mornings. His cohost is game warden Herb Foster.

Spike feels that the most satisfying aspect of his work is that it enables him to keep up his love affair with the outdoors and nature and to tell the story of these God-given blessings through the medium of his paint brush, pen and camera. He and Susie and their sons, Barry and Matty, live in Mechanicsville.

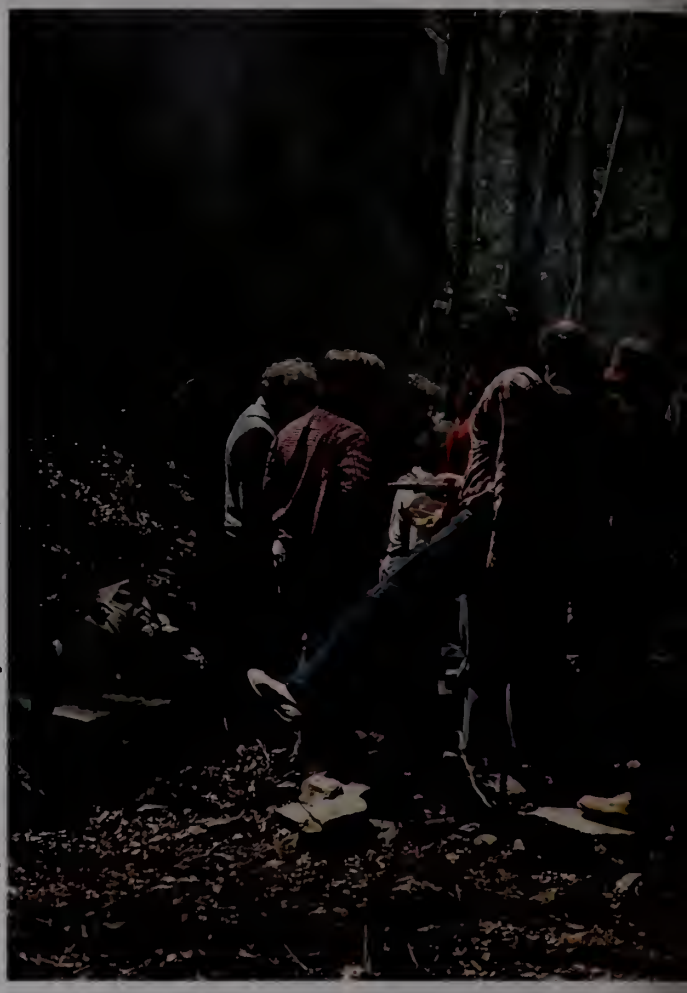
Wilderness River



BY BOB BELTON AND ELIZABETH MURRAY

The fate of St. Mary's river is still undecided.

On a fine spring Saturday last April, a group of hikers gathered at the entrance gate to St. Mary's River in Augusta County. Hosts for the group were members of the Shenandoah Valley chapter of Trout Unlimited, whose chief spokesmen were Scott Nelson, president, and Jerry Schuder, public relations director. The purpose of the trip was to introduce to the press the St. Mary's River proposed wilderness area. Newsmen from many local newspapers were there, together with several freelance outdoor writers and representatives from local radio and television stations.



Photos by Elizebeth Murray and Jim Bover

The countryside around St. Marys River is part of George Washington National Forest, and is managed by the Forest Supervisor. The river itself tumbles fast out of the mountains, leaving pools for trout around boulders and under cliffs. Amongst our state's anglers, there are always those on the lookout for natural streams to fish. Some rainbow trout still remain in St. Mary's River from earlier stocking but the stream is no longer stocked, so all the trout breeding there today are wild brown trout. Live bait is not permitted and only barbless hooks may be used. No more than six trout may be taken by any one fisherman and any fish under ten inches must be returned to the water. This should ensure a healthy continuing population of native trout. The barrier at the entrance to the river permits only foot travelers to pass, so that the fisherman can pit his wits against his trout in peace, a situation most anglers welcome and find all too seldom.

Essentially, management of the area would not change if the St. Mary's River area attained full wilderness status. Fishing regulations would stay the same. Hiking and backpacking would be allowed. Travel by horse would also be permitted, although the terrain is not particularly suitable for this. Although vehicular traffic is routinely excluded from a Wilderness Area, the Forest Supervisor can authorize any emergency vehicle to enter.

There is almost no original climax forest left in Virginia, and if we were to have any in the future, we must leave some areas alone long enough to grow it.

The St. Mary's River has been logged, and there was an extensive mining operation by one John Buck during World War II, extracting manganese ore. These activities ceased with the end of the war. Since purchase of this acreage by the Forest Service, the land has developed a good second growth which will gradually move towards climax forest during the next couple of centuries — and what a magnificent forest that would become, both in the near and the distant future. The area is already outstanding in natural beauty.

Our trip with the reporters followed the course of the main stream of the St. Mary's. We started where the river was wide and shallow, with huge clumps of bleeding heart, *Dicentra cucullaria*, in full bloom on rocky islands in the stream. Farther up we passed patches of bell flower, *Uvularia sp.*, stands of fetterbush, *Pieris floribunda*, and a few of the bright pink gay wings, *Polygala paucifolia*. The valley narrowed and we passed between towering cliffs beneath which were deep, still pools inviting the trout fishermen to ply their skill. Chuck Wright was testing the water quality of the stream. The Shenandoah Valley chapter of Trout Unlimited has taken on the responsibility for checking the water and tests are carried out routinely by its members. We forded the stream many times. Some crossings proved a little precarious, especially for Jim Bradley who was carrying sixty pounds of costly television equipment on his back so that he could make a news film for WHSV in Harrisonburg.

Opposition to wilderness designation for St. Mary's River comes from the Augusta County Board of Supervisors, and because of them, from Sixth District Congressman, Caldwell Butler. Local authorities have suspicions about further federal control in their area.

St. Mary's River was one of five proposed wilderness areas included in a bill which was presented to last year's Congress. They offer a wide variety of countryside. St. Mary's River is a small, contained watershed on the west slope of the Blue Ridge. Ramsay's Draft is in Augusta and Highland Counties, a large tract of mountain forest, part of which is already a Wilderness

Study Area. Rich Hole is a lower area about fifteen miles northwest of Lexington. The proposed Mountain Lake Wilderness is a larger tract high in the mountains of Giles and Craig Counties and Monroe County, West Virginia. Part of the Mountain Lake area and the whole of the nearby Peters Mountain tract are also Wilderness Study Areas.

Presentation of the bill last year focused attention on the whole concept of wilderness in Virginia and brought the matter before the public and the legislators for discussion. The position of the Forest Service at last year's hearings was predictable. They were understandably anxious to see the completion of RARE II (Roadless Area Review and Evaluation) so they could consider wilderness proposals altogether before giving full-scale support to any one area. Now that this survey is complete, the Forest Service will be considering all the areas involved, and will very likely support wilderness designation for the most important ones, one of which is certainly St. Mary's River.

After lunch, some of us clambered round the waterfall and continued a little way upstream. There was not time to go all the way to the headwaters, but had there been, we could have climbed up to Big Levels, on top of the ridge, and Green Pond. Green Pond is an acid pond in a small depression near the ridge and contains sphagnum, several sedges and a colony of cranberries. It is just north of the proposed wilderness boundaries but natural ponds and lakes are so rare in this state that it has been included in the proposal as a small enclave which would involve minor re-routing of an existing jeep road. From Green Pond we could have turned south and followed the ridge for a few miles, descending back down into the main St. Mary's drainage by Minebank Creek, Spy Run, or any one of a number of other small tributaries.

On rocky north faces in this area may be found scattered colonies of paper birch, *Betula papyrifera*, a species normally found only in much more northerly locations. Another normally northern resident is the stiff clubmoss, *Lycopodium annotinum*, not known to inhabit any other area in the Blue Ridge. There is a small population of swamp pink, *Helonia bullata*, a striking member of the lily family. Found in a wet, acid, wooded area in the upper reaches of St. Mary's this plant has a very scattered distribution and has been found only here and in a coastal plain swamp in Henrico County. The ridgecrests and upper slopes support extensive stands of pitch pine, table mountain pine, bear oak and rhododendron. Lower areas include massive stands of rhododendron and mountain laurel, ravines with giant hemlocks and cove forests of mixed hardwoods.

Under wilderness designation not all kinds of wildlife would benefit. Deer, rabbits and other animals which depend on low brush, second growth shrubs and open herbage might decline, while bear, turkey and grouse would increase. Good areas for bear to breed have been decreasing in the state in recent years, causing concern among game biologists and conservationists. Wilderness areas which would gradually increase habitat for these animals would be widely welcomed.

Aldo Leopold, one of the founders of the Wilderness Society, has said that wilderness areas are sanctuaries for the primitive arts of wilderness travel and recreation, hiking, backpacking, canoeing and hunting on foot, and that since mechanized recreation has already seized nine-tenths of the woods and mountains, a decent respect for minorities should dedicate the other tenth to wilderness. In Virginia, only 4% of the National Forest has been proposed for inclusion in the wilderness system. Each of the areas so far selected is different and each one has its own particular merits and beauty. The idea of wilderness protection for our fast-disappearing natural areas is spreading through the conscience of the public, and support is growing rapidly. Many are coming to realize the importance of preserving wilderness for future generations.

In January of this year, the U.S. Forest Service made public their list of recommendations for management of all the areas that were included in the RARE II survey. Twelve of the areas in Virginia, totalling some 64,000 acres, were recommended for wilderness designation. One of these areas is St. Mary's River in the George Washington National Forest.

Turkey Calls & Turkey Hunters

BY VIRGINIA T. SHEPHERD

The three types of turkeys react in very different ways to the hunters call.

The scene: It is 4:00 a.m. on a certain overcast Spring morning in southeastern Virginia. All across the state lights flicker on inside houses, alarms buzz off, and men (and a few women) slowly attempt to open their eyes and climb out of bed. Once alert, these people don camouflauge outfits and scrape their faces with black-burnt corks to mask their appearances. At about 4:30 a.m. these figures emerge from their houses, with a rifle or shotgun in one hand, and a small, odd-looking wooden box in the other. . . seven hours later, at 11:00 a.m., the figures return. Most return slowly, with heads hanging low, dragging their guns behind them, faces drawn and dejected. But, a few return with elated faces, shaking with excitement, and dragging behind them, as incredible as it may sound—a TURKEY.

Unusual, it is. But, thousands of people do it. And, on the opening day of spring gobbler season, thousands of people are actually waking up at an ungodly hour, pulling on an embarrassing outfit, and attempting to stalk wild turkey, even though the vast majority of them will return home empty-handed. But this one day is not the end to the insanity. Every day thereafter, until the season closes, hundreds of dedicated turkey hunters will repeat their morning ritual, and still return home every day empty-handed.

What is the reason behind all this? Surely, there must be something in the drama of turkey hunting that makes normally rational people go a bit insane. And, as I see it, there is. It all seems to emerge from the unique way in which Spring gobbler hunting is practiced. You see, Spring gobbler hunters address themselves to the male turkeys, and not just the ordinary male turkeys, but the very male turkeys. And, the object of the fanatic turkey hunter is to lure those very male turkeys into shooting range by means of a foil. The hunters, equipped with a genuine "Turkey Call" instrument,

attempt to imitate the coquettish call of a lovesick hen.

Now, attracting a male turkey by this means is not easy, mostly because wild turkeys, unlike their domestic counterparts, are not dumb. On the contrary, they are quite intelligent; moreover, they have a good ear for turkey music and excellent eyesight. And, in addition, I am convinced that there are at least three general categories of very male behavior which further challenge the wits and ingenuity of the turkey hunter. I am aware of only these three general categories, but, wholeheartedly believing in the secretive nature of the wild turkey, I would not be surprised if other categories were discovered. At any rate, I believe that ultimately, it is the challenge of these three distinct categories of turkey behavior (and any combination of the three in a particular frustrating bird) to the hunter that explains the mass and stubborn devotion to the insanity of turkey hunting.

The first category of turkey behavior is exemplified by what I call the "indiscriminate lover." This turkey will respond with a gobble to any call the hunter makes, no matter how unpolished or vulgar. And not only will he respond, but he will respond on the run — crashing through brush to locate his newfound love. Once in the vicinity of what he believes to be his lovely hen, our lover will preen and strut and gobble to the call, furling and unfurling all the finery of his tail feathers at frequent intervals.

Needless to say, this type of turkey is the hunter's dream — and oh, such a reward to the successful hunter. All those miserable early morning alarms, all those horrible days at work where ten cups of coffee will not erase those dark circles under the eyes — all are finally paid off, when the triumphant (though disheveled) figure strides into his home with a victor's modest words: "Got me one today." And I believe that every dedicated turkey hunter keeps this vision of the "indiscriminate lover" close to his heart, and that it often becomes the motivation for day after day of fruitless torture, in the hopes that someday. . .

But, on to the harsh realities of turkey hunting. The next type of very male turkey found in the hunter's woods is what could be termed the "indecisive lover." This timid male will usually respond to the amateur's call with a stuttered gobble or two, quickly advancing a few yards, and then shyly retreating behind a tree to collect his wits. This type of turkey may continue these shy advances and retreats for hours, gobbling intermittently and circling the hunter. He might almost unfurl his tail feathers behind a bush fifty yards out of range, but can never quite muster up enough courage to stride directly up to his caller and introduce himself.

This type of turkey is a continual source of frustration to our zealous turkey hunters. The turkey is there, and the hunter knows this from the consistent gobbling replies to his hen calls, but the undecided beast just will not come to within visual range, much less consistent shooting range. So, this same frustrated turkey hunter can be seen trooping back up the same hill to woo that same wishy-washy turkey day after day in the hopes that some morning this particular turkey will stride right up to that amorous call and take advantage of that "hen."

Finally, the third typical very male turkey found in the woods during the Spring is what I call the "connoisseur lover." He is a lover of fine calls. He does not deign to answer any call the hunter may produce from his awkward instrument; he responds only to the most eloquent, the most pleasing notes (though he may politely gobble once or twice to a half-way decent call, perhaps to inspire future improvement). And, when he responds, it is with a leisurely style that reflects his cultured taste. No rash brush-crashing here. Wishy-washiness is beneath him. Determinedly, yet tastefully, he pursues his "love," displays his fine set of tail feathers in full view of his caller, and politely waits to be accepted.

Of course, this type of turkey can be a source of supreme enjoyment to the turkey hunter, for it is in the response of this bird that the real skill of the hunter is rewarded. And, while this turkey can bring another joyful hunter home in the morning, it is more likely that it will send countless hunters home without even hearing a gobble. But, inevitably, these same dejected hunters will rise to the challenge of this king of birds by hot-footing it to the nearest gun shop to buy themselves a record of the finest rendition of a female turkey call they can find. Then they will spend the rest of that afternoon and evening imitating the recording to perfection, before gallantly setting their alarms once more for 4:00 a.m.

So, all this turkey hunting insanity grows out of the challenge each hunter faces in each type of bird. Or, at least that's my theory. Of course, I could be wrong. It could be that there is no rhyme or reason to it all. Just plain fool craziness. But, it's nice to be able to justify it reasonably when you're caught gobbling under your breath at work.

1979 TROUT STOCKING PLAN

Here is the trout stocking summary for the program being carried out by the Virginia Game Commission and the U.S. Forest Service. In some cases, if a sufficient amount of one species is not available, another will be substituted.

LEGEND:

* – National Forest Waters
B – Brook Trout
R – Rainbow Trout
Br–Brown Trout

	Period Stocked			
	Preseason	April	May	June
ALBEMARLE COUNTY				
Mormans River (N&S Forks)	R		R	
City Water Works (Sugar Hollow)	B,R		B,R	
ALLEGHANY				
Smith Creek*	B	B	B	
Pounding Mill Run*		R	R	
Jerry's Run		B		
Clifton Forge Reservoir*	R	R	R	
AMHERST COUNTY				
Pedlar River (upper & lower)	B,R,Br		R,B	
Piney River (S. Fork & Prop)	B,R,Br		R,Br	R,Br
Brown Creek*	R	R	R	
Davis Mill Creek*	R	R	R	
Enchanted Creek*	R			
Little Irish Creek*	R	R		
Pedlar River*	R	R	R	
S. Fork Piney River*	B			
Statns Creek*	R			
AUGUSTA				
Back Creek Proper & S Fork	B,R		B,R	R
Jerkemtight Creek*	R	R		
North River	R	R	R	
Buffalo Branch* (Falls Hollow)	R			
Ramsey's Draft*	R	R	R	
Braley Pond*	R	R	R	
Back Creek*	R			
Mill Creek*	R			
Upper Sherando Lake*	R	R	R	
Lower Sherando Lake*	R	R	R	
Heartstone Lake*	R	R	R	
Elkhorn Lake*	R	R	R	
Rowland Pond*	R	R		
Cold Spring Ponds*	R	R		
BATH COUNTY				
Bullpasture River	R,Br		R,Br	R,Br
Jackson River	R,Br		B,R,Br	R
Spring Run	B,R,Br		B,R,Br	R,Br
Back Creek*	R	R	R	
Wilson Creek		R	R	
Muddy Run*		R	R	
Pads Creek	R	R	R	
Jackson River (Hidden Valley)*	R	R,Br	R	
Lick Draft*	B	B		
BEDFORD				
Hunting Creek*	R		R	R
Battery Creek*	R		R	
BLAND				
Hunting Camp Creek	B,R		B,R	R
No Business Creek	B,R		B,R	
Lick Creek	B,R		B,R	R
Wolf Creek	R,Br		R	R
Laurel Fork Creek	B,R		R	
Lick Creek*	R		R	R

	Preseason	April	May	June
BOTETOURT				
Jennings Creek	B,R		R	R
Mill Creek	R,Br		R	
Roaring Run	R,Br		R	R
North Creek*	R		R	R
Middle Creek*	R		R	R
McFalls Creek*	R		R	R
BUCHANAN				
Hurricane Fork	B,R		B,R	
Dismal River	B,R		B,R	R
CARROLL				
Little Reed Island Creek	R,Br		R,Br	R,Br
Stewart's Creek	B,R		B,R	
Big Reed Island Creek	B,R		B,R	R
Crooked Creek	B,R		R	R
Burkes Fork	B,R		B,R	R
Lovills Creek	B,R		R	
Laurel Creek	R,Br		Br	Br
Snake Creek (Fish for Fun)			Br	
CRAIG				
Potts Creek	R,Br		R,Br	R,Br
Barbours Creek*	R		R	R
Cove Creek*	B		R	
Lipes Creek*	B			
Potts Creek*	R,Br		R	R,Br
Broad Run*	R			
Schoolhouse Branch*	R		R	
North Fork Barbours Creek*	R		R	
S. Fork Barbours Creek*	R		R	R
DICKENSON				
Frying Pan Creek	B,R		B,R	
Russell Fork River	R,Br		R,Br	R
Pound River	R,Br		R,Br	R
FLOYD				
Burkes Fork	B,R		B,R	R
Howell Creek	B,R		B,R	R
Rush Fork	B,R			
W. Fork Little River	B,R		R,Br	R,Br
Meadow Creek	B,R			
Laurel Fork	B,R			
Mira Fork	B,R			
Goose Creek	R		R	
Little River	R,Br		R,Br	R,Br
Little River (Fish for Fun)			Br	
FRANKLIN				
Maggodee Creek	B,R		B,R	
Green Creek	B,R		R	R
Runnet Bag Creek	B,R		B,R	
FREDERICK				
Back Creek (Upper)	B,R		B,R	
Back Creek (Lower)	B,R		B,R	
Hogue Creek	B,R		B,R	
Cedar Creek	B,R		B,R	R
Paddy Run	B,R		B,R	
GILES				
Stoney Creek	B,R,Br		B,R	R
Sinking Creek	B,R,Br		R	R
Dismal Creek*	R		R	R
GRAYSON				
Big Wilson Creek	B,R,Br		R,Br	R
Middle Fox Creek	B,R		B,R	R
Middle Fork Helton Creek	B		B	R
Big Fox - Upper	B,R		B,R	R
Big Fox - Lower	B,R			
Elk Creek	B,R		B,R	R

	Preseason	April	May	June
Peach Bottom Creek	R		B,R	R
Helton Creek	R		B,R	R
Turkey Knob Fork Creek	B,R		B,R	
Hale Lake*	R		R	R
GREENE				
Lynch River	B,R		B,R	
South River	B,R		B,R	R
Swift Run	R		B,R	R,Br
HENRY				
Smith River (Philpott)	B,R,Br		R,Br	R,Br
Smith River (Bassett)	R		R	
Smith River (Koehler)	R		R	
HIGHLAND				
Bullpasture River	B,R,Br		B,R	R
South Fork Potomac River	B,R,Br		B,R	
Jackson River	B,R,Br		B,R	R
Back Creek	B,R		B,R	
LEE				
Martins Creek	R		R,Br	R
N. Fork Powell River	B,R		B,R.	R
MADISON				
Garth Run	B,R		B,R	B,R
Hughes River	B,R		B,R	R
Robinson River	B,R		B,R	
Rose River	B,R		B,R	
MONTGOMERY				
Tom's Creek	B,R		B,R	
South Fork Roanoke River	B,R,Br		R,Br	R,Br
Poverty Creek*	R		R	
Craig Creek*	R		R	
NELSON				
Tye River	B,R,Br		R,Br	R,Br
N. Fork Tye River	B,R		B,R	R
Stoney Creek	B,R		B,R	R
Goodwin Creek	R		R	
PAGE				
Cub Run*	R	R	R	
Pit Spring Run*	R		R	
Upper Passage Creek*	R	R	R	
PATRICK				
Dan River (below Powerhouse)	B,R,Br		R,Br	R,Br
Dan River (above Powerhouse)	B,R		R,Br	
Rock Castle Creek	B,R		B,R	
Round Meadow Creek	B,R		B,R	
N. Fork Mayo River	B,R		B,R	
S. Fork Mayo River	B,R		B,R	
Poorhouse Creek	B,R			
Big Ivy Creek	B,R		B,R	
PULASKI				
W. Fork Peak Creek	B,R		R	
RAPPAHANNOCK				
Piney Branch	B,R		B,R	
ROANOKE				
Roanoke River	B,R,Br		B,R,Br	
Tinker Creek	B,R		B,R	
Glade Creek	B,R		R	
ROCKBRIDGE				
Mill Creek	B,R,Br		B,R	R
Irish Creek	B,R		B,R	R
South River	B,R		B,R	
ROCKINGHAM				
N. Fork Shenandoah River	B,R		B,R	R
Dry River	B,R		B,R	
Briery Branch	B,R		B,R	
Silver Lake	R		R	
Boones Run*	R		R	
Shoemaker River*	R	R	R	
Blacks Run*	R	R	R	
Gum Run*	R		R	
Skidmore Fork*	R		R	
Slate Lick Run*	R	R	R	
Briery Lake*	R	R	R	
Hone Quarry Lake*	R	R		
Hone Quarry Run*	R	R		
RUSSELL				
Copper Creek	R		R	R
Thompson Creek	B,R		R	R
SCOTT				
Little Stony Creek -lower	B,R		R	R
Stock Creek*	R			
Devils Fork*	R		R	
Straight Fork*	R		R	R
Little Stoney Creek - upper*	R		R	R
Cove Creek*	R		R	R
SHENANDOAH				
Passage Creek	B,R		B,R	R
Big Stoney Creek	B,R,Br		R,Br	R,Br
Cedar Creek	B,R		B,R	R
Mill Creek	B,R		B,R	R
Little Stoney Creek* (Above Woodstock Res.)	R	R	R	
Paddy Run*	R	R	R	
Cedar Creek*	R	R		
Peters Creek Mill*	R	R	R	
Tomahawk Pond*	R	R	R	
Little Passage Creek*	R	R	R	
SMYTH				
S. Fork Holston River (Gorge)	B,R,Br		R,Br	R
S. Fork Holston River (lower)	B,R,Br		B,R	R
Big Laurel Creek	B,R		B,R	R
Staley's Creek	B,R		B,R	R
Middle Fork Holston River	R,Br		R	R
Comers Creek*	R		R	R
Hurricane Creek*	R		R	R
Houndshell Creek*	R		R	
Dickey's Creek*	R		R	
Center Creek	R			
Roland Creek*	R		R	
TAZEWELL				
Wolf Creek	R,Br		R,Br	
Cove Creek	B,R		B,R	R
Laurel Creek	B,R		B,R	
Roaring Fork	B,R		B,R	
Little Tumbling Creek	B,R		B,R	R
Roaring Fork*				R
WARREN				
Gooney Run	B,R		B,R	
WASHINGTON				
Whitetop Laurel	B,R,Br		R,Br	R
Tennessee Laurel	B,R		B,R	R
Green Cove Creek	B,R		B,R	R
Big Brumley Creek	B,R		B,R	R
Big Tumbling Creek	B,R		B,R	R
Valley Creek	B,R		B,R	R
Straight Branch*	R		R	R
WISE				
Middle Fork Powell River	B,R		B,R	R
Mountain Fork*	R		R	
Burns Creek*	R		R	
Clear Creek*	R		R	
Machine Creek*	R			
High Knob Lake*	R		R	R
WYTHE				
E. Fork Stoney Creek	R		R	
Gullion Fork Creek*	R		R	
E. Fork Dry Run*	R		R	
W. Fork Dry Run*	R		R	
W. Fork Reed Creek*	R		R	
Gullion Fork Pond*	R		R	R

Appalachian Spring

A PHOTO ESSAY BY PAUL BRATTON AND JUDY PRICE

It is still mid-winter (above) when the first signs of spring appear. Frogs and toads (below) emerge from their winter hibernation. Wood sorrel and ferns (above right) carpet the forest floor. The first hickory leaves (below right) burst forth

In late winter sap is collected and boiled to produce sugar and syrup. (left) Along ice bound streams, (above) skunk cabbage pushes through the frozen mud. Flowers of the fringe tree (below) emerge in late spring.

Smith Mountain Stripers

by Gerald Almy

STRIPERS ARE ELUSIVE, CAGEY, AND WELL WORTH THE TROUBLE.

"Whip-poor-will. Whip-poor-will. Whip-poor-will," comes the melifluous call from the bird in the shoreline brush, and the angler knows it is time for quarry to range in quest of prey. Darkening skies will draw bait-fish into the shallows and the striped bass will follow them there as surely as the sun sets in the West.

Dale Wilson, hunkered down in the bow seat, casts an eight-ounce yellow and white bucktail at the banks. He works it back at a slow, steady crawl, stopping half-way for the jig to drop deep, then resuming the smooth retrieve.

But the swimming white bait stops abruptly when a striped creature clamps down upon it, inhaling the fish-like object easing through the black water like some free, hand-out meal. The object stings of cold, sharp metal, though, and the big swimmer opens its mouth fast, expelling air, water and hopefully the barbed white "fish" it has bitten.

But the jig sticks.

Above water, Wilson's arms react swiftly to the nudging bump against his lure. His forearms and wrists sweep back in a jabbing motion and fingers pump on the light spinning reel handle.

"There's one," comes his casual announcement as the drag spits a strident whine from its guts and light blue line angles through the green-black water. Ten minutes later, Wilson lip-hoists an 11-pound striper over the gunwale.

The bass are in.

So began this night of striper revelry. It was not in

some saltwater bay that Dale Wilson showed his tricks to a visiting angler. Nor was it in a tidal river, where the silver and black fish ascend to spawn before returning to their saltwater ranging grounds.

It was in a freshwater lake — a type of water that is rapidly replacing the briny as the most reliable and consistent producer of top quality striped bass fishing. This lake, Smith Mountain, nestled snugly in the Blue Ridge Mountain foothills in southwestern Virginia, ranks as one of the best of these sweetwater striper holes.

The striped bass as freshwater gamefish is a comparatively fresh discovery as angling time goes. It was only at the recent date of 1941 that anyone even conceived that stripers could live a wholly landlocked, freshwater existence and be happy.

The mosquito-infested lowlands of central South Carolina were flooded to form sprawling Santee-Cooper Reservoir then, and striped bass that had traveled up the Santee and Cooper rivers to spawn were trapped in the new lake. A few years later, anglers latched onto some of the incarcerated transplants, and it wasn't long before biologists realized they had the first freshwater striped bass fishery in the world on their hands.

Since that date, catching stripers in freshwater has become an increasingly common occurrence, thanks to steady experimentation and stocking efforts by fish and game departments across the South.

Only a limited number of lakes support naturally-reproducing populations of the hard-fighting gamefish. Santee-Cooper in South Carolina, Kerr Reservoir in Virginia, and the Colorado River in Arizona are a few that come to mind immediately.

Many other lakes, such as Smith Mountain, however, provide incredible angling for stripers, even though the bass must be stocked into the lake each year to maintain a constant supply of fish. Stripers have rather unique requirements for successful reproduction and stocking, but constant refinements in technique have allowed game departments to produce millions of the fish for planting at a fairly modest expense.

Virginia has been a front runner in the freshwater striped bass fish culture. The state has produced over 50 million fry per year. At their Brookneal hatchery — fish spawned naturally in 600-gallon containers of swirling water by a roe-laden hen fish and several attendant males.

First stocked in the lake in 1963, close to half a million striper fingerlings are now planted in Smith Mountain each year. The result of this massive stocking effort in what has proven to be a favorable habitat for the striper is fishing of a sort that one can't accurately describe — at least without being accused of writing that same old hyperbolic shmuck.

But though the fishing can be exceptional, the stripers inhabiting Smith Mountain are not pushovers. They don't — except on rare occasions — jump onto any lure you toss into the water at any point in the lake. Most times you have to work hard for the striped bass, avoiding assiduously the fatal mistake of getting trapped in one particular style of fishing that you rely on exclusively.

When Wilson met a road-weary angler at Saunder's Marina on a windy, sun-soaked afternoon in May, he had some unexpected news: the fish had changed their feeding pattern over the past few days.

"Usually we start catching them right as it starts to get dark and afterwards. Over the last few days that's changed. Now we're getting them earlier. We only got two after dark last night out of 18 fish."

But those days were cloudy. Now the sun beats down harshly, creating such a glare on the water that eyes can barely be kept fixed on the water where thin mono leads the small white jigs back from shore. The fishermen probe and probe, but only find a few small bass, a pair of 4-pound smallmouths, and a single 12-pound striper in two hour's fishing.

When blackness settles over the lake, stripers begin moving toward the shoreline shallows. Wilson begins picking up more and more of the stripers that follow the baitfish in for an easy nighttime repast.

But it is exactly the opposite pattern from the previous four days. Now the fish are biting once again after dark, rather than during the late afternoon hours.

The fish's preference in lure choice, depth, and speed of retrieve have also done an about-face over night. Whereas bucktails crawled slowly and steadily away from shallow points had garnered virtually all of Wilson's fish of late, tonight only a few stripers come this way.

Cold weather has sent the big bass deep, and it is while working deep water along sharply dropping points and banks that fish are taken. The fishing is strange, to say the least — and there is nothing simple about it.

Wilson has switched from his favorite lure, a quarter-ounce bucktail, to his next choice, a Spot. This Spot is the discontinued Garcia model, which Wilson claims he wouldn't sell for $10: "Had to go all the way to Tennessee to find these."

The Cordell Spot is the closest match his companion can find, so he clinches it on the 8-pound line and begins casting towards a break of gray in the void of blackness that he hopes is the shoreline. The moon provides scant illumination, though, and it is difficult to judge distance. Eventually he discovers that his longest heave will not get him snagged on shore, and begins whipping out the shad lures as far as he can cast them each time.

But getting the lure near the lake's shore is only the beginning of catching the stripers, as his unbent rod sadly testifies.

"If I were you, I'd work that lure slower," Wilson says. "You might try slowing that thing down a bit," ten minutes later. By now, it seemed to the tutored angler that he was about to grow cobwebs on his reel hand from inertia, but Wilson soon adds one final dictatorial command: "Slow that lure down!"

The angler does. In fact, he stops his retrieve entirely — halfway back to the boat — to shine the light for Wilson while he nets his fourth or fifth striper.

"Nice one. About ten pounds," he offers. And at that the frustrated angler's rod tip dances sharply, sending a wave of vibration down to his wrist where it clutches the dirty cork grip.

"Got one!" comes the involuntary response as he leans back into the throbbing of a good fish. "Wasn't even moving the lure."

Actually, of course, the lure had been dropping when the fish struck. The technique of crawling the shad lures slowly back from shore, pausing 30 or 40 seconds while the lure dropped deep, reeling a short distance more, and pausing again, proved irresistible to the finicky stripers that night. Almost always it was while the lure was dropping and the angler sitting still, that the big fish climbed onto the shad lures like a cat pouncing on a rat.

Some of the big fish had the plugs halfway down their throat, and required needle-nose pliers to extract them. Others hit the lures with gusto, but in typical striper fashion expelled them before the hooks could be set.

It was strange fishing — reeling in so slowly that it was painful, then stopping the retrieve altogether. But

vations. A few motels and restaurants are also present on the lake, as well as several marinas.

With over 20,000 acres, Smith Mountain offers exceptional fishing for many other species besides stripers. The lake yielded 47 citation-sized smallmouths in 1977, meaning fish over 4 pounds. More six-pound-plus muskies were caught here than anywhere else in the Old Dominion, as well. Largemouths to ten pounds, crappies, and some fine walleye fishing also await the angler at Smith Mountain.

But it's the prospects of latching onto mammoth striped bass that lure most sportsmen to this blue water lake. Out of 433 striped bass over 15 pounds recorded for citation in the state last year, 362 of them came from Smith Mountain. The biggest was a 35½ pounder.

Some anglers feel it's only a matter of time before the 40 and perhaps even 50 pound mark is broken in that state.

Smith Mountain is where it's likely to happen.

Many anglers feel Smith Mountain Lake will produce the next record striper.

oh, how effective! When finally the novice stumbled onto the strange technique he helped Wilson account for 15 stripers in less than two hours. The smallest fish was six pounds, the largest about 14. All were plump, line-stripping specimens in the prime of health in their freshwater home.

Wilson's one-two punch with the bucktail and Spot lures will turn the trick on just about any spring night when the bass are congregated along the shoreline, chasing spawning shad. Other anglers catch the fish with crankbaits, Red Finn minnow plugs, Rebels, and Rapalas. A few pioneering long rodders have caught the stripers on flies — white and yellow streamers and bucktails such as the Platinum Blonde and Lefty's Deceiver.

Shad is the reason most anglers and biologists feel that the stripers migrate to the shoreline every night on this big lake. The small, deep-breasted baitfish move into the shallows as the sun sets to spawn, and big bass sense the free meals waiting. They move into coves from deepwater daytime hangouts, often working up one shoreline and down another, corralling the baitfish towards shore and busting into them like meatgrinders. This fishing begins in March and usually lasts through early June.

The limit on stripers in Smith Mountain is four fish a day over 20 inches. Increasingly, anglers are releasing all but a few of these high class gamefish. But stripers are fragile fish, and it takes careful handling to avoid injuring them. The best method is to twist the lure free of the fish's mouth without removing it from the water, if you can. Needle-nose pliers are sometimes helpful for this.

Campgrounds are plentiful along the shores of Smith Mountain; during prime spring striper fishing season there are plenty of spaces available without reser-

TACKLE TIPS

There's plenty of room for variation in tackle where stripers are concerned. Most anglers go with 20 or 30 pound test line, which is a bit excessive.

Baitcasting or spinning rigs taking 10 to 14 pound line offer probably the optimum combination. This size outfit will give you the strength needed to land the occasional 20 or 30 pounder, while still affording good sport with the more common 8 to 12 pounder fish.

If you're looking for real thrills, refine down to 6 or 8 pound test and use a light or ultralight spinning reel with a good, smooth drag. Stripers are not as prone to run for brush to wrap your line around as black bass are. You can usually land any big fish you hook with this gear if you take your time and don't snub the drag down too tightly. However, it does take longer to land fish on the fine tackle, and you'll score on fewer fish in the course of an evening, simply because you'll be fighting the ones you hook for five to ten minutes apiece — longer if you hook a real brute.

It's also important to match the proper size bucktail with the right diameter line to get the correct action in the water and the optimum "sink rate." Wilson recommends 1/8 ounce bucktails for six pound line; ¼ ounce for eight to ten pound line; ½ ounce for 14 to 17 pound mono.

Don't make the mistake in thinking the tiny tackle and 1/8 ounce jig is likely to score on smaller fish. Wilson was using just such gear last year when he latched onto a 24 pounder. An hour and fifteen minutes later the big fish was beaten.

Growing Up Outdoors

BY SANDY COLEMAN

ENDANGERED SPECIES

Illustration by Diane Grant

Matt and Amy walked through the sunlit woods on their way back to their home.

"That sure was a neat picnic lunch. But you shouldn't have scared me with all that stuff about cougars. I almost believed you!" Amy pouted.

Matt laughted. "I know. Mom said I wasn't supposed to try to scare you, but sometimes I just can't resist. Anyway, there aren't any cougars here. They are an endangered species."

"Endangered species? What does that mean — doesn't that mean that they don't exist anymore?" Amy asked her older brother as they continued their walk through the wooded land.

"No, an endangered species is one that is threatened with extinction. They still exist, though if they don't receive help, they could become extinct. Though, the cougar is kind of a bad example, their existence is in doubt." Matt explained.

"Well, what is a better example?" Amy asked.

"I don't really know that much about endangered species. I'll look it up in the library at school on Monday," Matt promised.

Miss Duncan, Matt's school librarian was very interested when Matt asked her about endangered species. she helped him find several books and magazine articles on the subject.

"I hope that answers all your questions," the librarian told Matt. He thanked her as he left the library.

That evening Matt told Amy what he had discovered through his reading as the two sat in the family den.

"Well, as I told you before, for a species to be classified as endangered, its status must be in immediate danger. Most of those on the list are there, though, because of man. It could be because of our use of pesticides like DDT or because of our building and the destruction of the natural habitat of the species. The peregrine falcon is on the endangered list because of DDT. It served to forewarn us of the dangers of DDT. The bald eagle, probably the best known of the endangered species, has been endangered largely because of our building. Coastal buildings and developments have interfered with their breeding grounds. Also, pesticides have affected them. There are fewer places for them to nest and then when they do, the pesticides have infected their bodies to the extent that the nests are often a failure in producing young. The shells become very thin so that it is easy for them to break. Also, even if they live the young can be deformed," Matt explained.

"That's horrible, Matt! Isn't the bald eagle our national symbol?"

Matt said that it was. Amy looked thoughtful for a moment. "We studied in school about the different eras of the earth's history. Dinosaurs are extinct and that happened before man even existed. What is the difference?" Amy asked her older brother.

"Well, the major difference is that these are on the endangered list largely because of the interference of man, not by any totally natural means. It isn't part of the natural process of extinction. So, in order not to upset the ecosystem, we have to protect them. And a lot of things on the list are creatures you'd normally never even hear of, like the leatherback sea turtle."

"Yes, I think that makes sense. Besides, they make medicine from plants, don't they? Someday there might be an important one that could be found in an endangered plant," Amy said as Matt put down the book that he had been consulting.

"That could happen. We wouldn't ever know if we let the plant become extinct," Matt answered. "I guess what it comes down to is that man has to respect his environment. We can't abuse it anymore like we have done in the past. I think people think about it more now, don't you?"

After thinking for a while, Amy agreed with her brother. "I hope so," she said.

It Appears To Me
By Curly

. . . A PERSON OUGHT TO HAVE ONE

No matter what your age, if you are currently participating in the Social Security program, it is certainly worth your while to request a free copy of the latest publication on that subject. All you need to do is drop a line to the Bureau of National Affairs, Inc., Washington D. C. 20037 asking for a copy of "Your New Social Security and Medicare Fact Sheet." This bulletin reflects changes which became effective during January 1979 and it contains details covering the wide variety of variables which are available.

If you hurry, there is still time to get some invaluable information which will help you in preparing your income tax return. Available free from the Internal Revenue Service are two publications which are, or could be, especially helpful for you folks who are interested in, or qualify for, "Roll Overs" or Individual Retirement Savings Programs. Simply write to or call IRS and request Publication 1097 which deals with the subject of roll overs, or Publication 590, which addresses the subject of the Individual Retirement Savings Programs. Both of these items should be available by the time that you read this.

Not many of us in this area have escaped the rigors and inconveniences caused by the wild weather which has plagued the population recently. We have had to slide, slither, skid and shovel our way through major parts of the first months of the new year. Next it would not surprise me to face the prospects of having to wallow in the Spring thaw run-off and other weather-related problems caused by a fickle Mother Nature. With all of this we often have to contend with the loss of electric power. With that in mind, the good folks at the

Coleman Company (lanterns and stoves, etc.) have produced a free publication entitled "STANDBY: A Guide On How To Be Ready For Emergencies." This little fourteen-pager is plum full of good advice pertaining to food, water, heat, communications and light under emergency conditions. It's available from your nearest Coleman dealer or by writing: Public Relations Dept., The Coleman Company, Inc., 250 N. St. Francis, Wichita, Kansas 67201.

One of the best sources of free information about a wide variety of subjects is the Consumer Information Center. No doubt you have seen the ads on television or heard about the service on the radio. Here are some examples which I have picked out as being useful to most all of us. "Shopping For Credit Can Save You Cash": an explanation about the comparative costs of buying with loans, credit cards and revolving charge plans (627-G). And here is one that is available just in time to help you plan your garden this summer. "Growing Your Own Vegetables" is 144 pages of information pertaining to planning, planting and caring for vegetables (620-G). The three publications which are listed are free by requesting them by number from Consumer Information Center, Pueblo, Colorado 81009.

. . . FOR YOUR BOOKSHELF

A few years back some folks out in the state of Washington produced a unique book entitled "Nature Guide," the local naturalist helping the traveler. The philosophy behind its publication was that persons truly interested in nature who also did some traveling often missed special situations (known only to local residents) as they passed through the area. So a network of volunteer guides was set up whereby there was a way that the traveler could make contact with these knowledgeable persons who could in turn point out the natural treasures unique to their home regions. I am pleased to report that "Nature Guide" has been modernized and the up-dated 1978-79 edition is now available. In it, listed by state, are the addresses and phone numbers of these volunteer guides. Preceding the list of guides are ground rules for both visitors and guides. These provide a method for establishing rapport for both parties. "Nature Guide" is available by that name from the publisher at 34915 4th Avenue South, Federal Way, Washington 98003. The postage paid price is $3.95.

. . . AND THEN

For what it is worth, let me pass on an intriguing idea. You can help the Idaho Park Foundation to preserve open space atop Dollar Mountain in Sun Valley, Idaho. Send One Dollar for each square inch of land and receive a certificate of ownership signed by Idaho Governor John Evans. Address your correspondence to Save A Mountain, Idaho Park Foundation, Box 100, Boise, Idaho 83707.

Virginia Shad

BY JOAN CONE

April in Virginia is shad month, for that's when the greatest run of American shad *(Alosa sapidissima)* ascend our coastal rivers to spawn in fresh water. This spawning migration starts in southern Chesapeake Bay as early as February and continues until May or June in the northern sections of the Bay. Shad run up most tubulars of the bay as far as dams or pollution will allow. Hickory shad, a related small species of less commercial importance, migrate at the same time.

Long before the English landed at Jamestown, shad had been an important source of food for the Indians of Virginia. They caught them in nets made of bushes and prepared them by roasting, baking, and smoking. The English, however, rejected shad as a food fish for almost 100 years. In the early 1700's, shad began appearing in colonial markets, selling for a penny apiece. Even George Washington ran a shad haul seine operation on the Potomac River. A few years later, thousands of barrels of shad were salted and shipped to markets in Baltimore and New York.

Today most shad are caught by stake and drift gill nets, and depending upon the abundance of fish, roe shad usually sell for between $.25 and $1.00 per pound.

There are many commercial shad fisheries and fishermen in coastal Virginia. One of these that we visit every April is Hazelwood Brothers off Route 60 in New Kent County. It's a spectacular sight to view crates full of shad waiting to be iced and shipped to markets and restaurants. If you wish to purchase shad and the delicious, delicate roe at Hazelwood Brothers, or at a similar establishment, your fish will be expertly cleaned, and crushed ice will be placed in your own cooler, at no expense, so that your fish will remain in perfect condition for the trip home.

Because shad are an oily fish, they do not freeze well for any length of time. One way to insure longer freezer storage of shad is to use this protective dip and then wrap the fish well in plastic film.

PROTECTIVE DIP FOR FREEZING FISH

1 envelope or 1 tablespoon unflavored gelatin
½ cup lemon juice, fresh or reconstituted
1¾ cups water

Stir gelatin into water and lemon juice mixture and heat over low setting, stirring until gelatin dissolves. Cool to room temperature and then dip the whole shad, fillets, or roe into this liquid and shake off any excess. Finally wrap your fish in plastic film using a drugstore fold down center of package. Fold ends several times over. Do not use aluminum foil to wrap fish for freezing as it punctures easily, and even a tiny hole can cause freezer burn.

Shad can be baked whole, or fillets may be fried, steamed, broiled, or smoked. The roe, which is a delicacy, is best sauteed and not overcooked.

Bones are a problem with shad as they are full of those fine "Y" bones also found in pickerel, pike, and related species. Shad can be filleted removing these nasty bones, but you must have the exact method. Filleted, boned shad is very expensive in the market. There are, however, cooking methods for whole shad which do soften the bones so they are easily chewable — like bones in canned salmon. This method, as you will see in the recipe, requires long, slow cooking. Because of the oily nature of shad, they can stand this way of preparation without becoming dry and tasteless.

The roe from both American and hickory shad is delicious and very expensive when purchased in the market. It's much more economical to buy an American roe shad, which includes the roe. Roe comes in pairs, and one half of a large roe is a serving or an entire small pair.

It is not necessary to parboil roe as some recipes indicate. After all, preparing fish roe is really just cooking thousands of minute eggs which cook quickly and become hard with overcooking.

Using this recipe for sauteeing is the best method I've found for preparing shad roe.

April is the month to take advantage of the shad in our coastal rivers.

SAUTEED SHAD ROE

Fry enough bacon allowing one or two pieces per person. Leave just enough fat in fry pan to cover bottom. Dust roe lightly and gently with flour to which salt has been added. Place roe in hot bacon fat and brown well. Turn, using a spatula, and brown on the other side and then allow to cook until eggs appear done. Place on warm platter with strips of cooked bacon and wedges of lemon. Allow 1 small pair or ½ of large pair per person.

This recipe for baking shad does not dissolve bones.

BAKED SHAD

1 (3-4 pound) American Shad
Salt
Lemon slices
Paprika

Preheat oven to 350° F. Line a 2-inch deep roasting pan with aluminum foil. Place shad in pan and salt cavity and both sides. With a sharp knife make slits part way through one side of fish. The slits allow oil to seep out during baking. These slits can then be used after cooking for cutting the shad into serving pieces. Place a thin slice of lemon in each slit and sprinkle top of fish with paprika. Bake shad for 1 hour or until fish flakes easily when tested with fork. Serves 3 or 4.

BAKED SHAD WITHOUT BONES

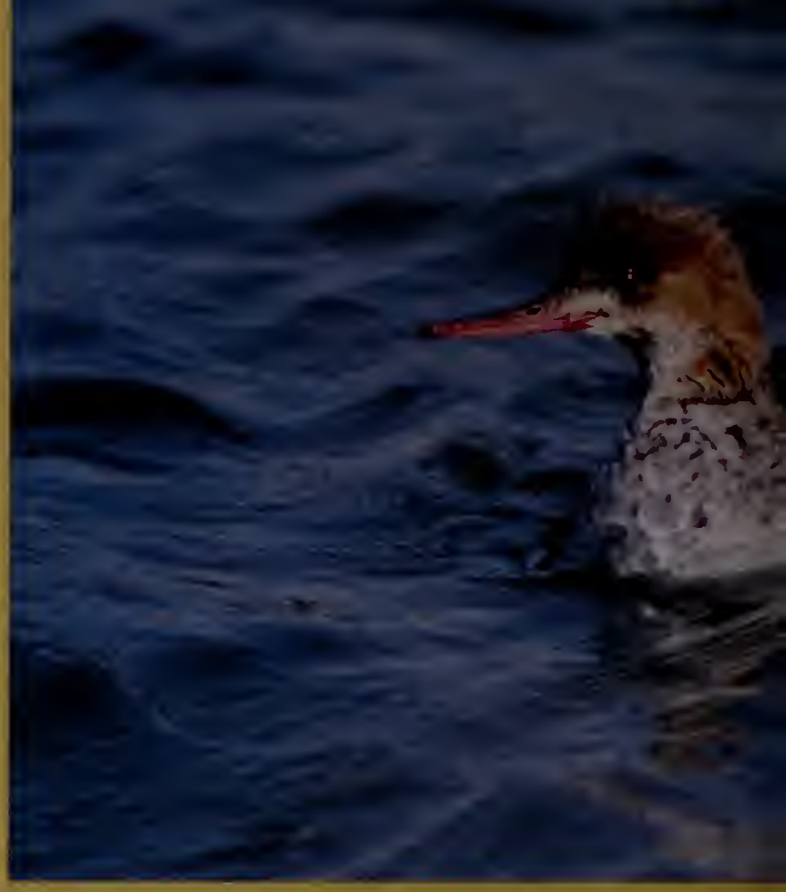
1 (3-4 pound) American shad
3 tablespoons vinegar
Melted butter or margarine
Salt

Preheat over to 250° F. Rub cleaned shad inside and out with melted butter and vinegar. Sprinkle with salt. Wrap and seal tightly in aluminum foil. Bake in a covered roaster at 250° F. for 6 to 8 hours. This process causes the bones to disintegrate. Serves 3 to 4 persons.

SALTMARSH ECOLOGY

Part III
Birds of the Saltmarsh

by Curtis J. Badger



Mergansers (above), buffleheads (right), and snow geese (below) are all transient residents of Virginia's saltmarshes. The great blue heron (right) is another visitor to the ever-changing saltmarsh.

The marsh is a neighborhood of transients. In spring, the summer birds move in. The gulls, terns, skimmers, oystercatchers and shorebirds fly in from the south, nesting in the saltmarsh and along the sandy strips of barrier islands. The summer birds raise their young, then in the fall they are gone, and like clockwork the winter birds move in to usurp their territory. The cycle is repeated every spring and every fall, and like nature's own calendar the birds of the marsh signal the passing of the seasons.

For bird watchers, the wetlands present a continuously changing tableau, a moveable feast of avian actors in their own theater. Prime time viewing is in early spring and in the fall, when the overlap of migratory birds presents a view of both winter and summer species. In September, waterfowl that migrate early. such as blue-winged teal, fly in to join the terns and gulls which still call the Virginia marshes home. Later come the black ducks, the pintails, mallards, buffleheads, mergansers, brant and other winter birds. And as the winter birds move in, the gulls, terns and skimmers head south to spend the winter in the more temperate climates.

When winter comes, the bird population and the very character of the marsh change. The lush green marshes of spartina grass turn brown, and the blue skies of summer give way to leadened gray clouds, bringing snow and bitter winds across the marsh. This is the season of waterfowl. The fishermen and the beachcombers who were drawn to the marshes' bays and beaches are gone, and only a few hardy duck hunters brave the winds and chill temperatures of the winter marsh. Now the marsh belongs to the ducks, the brant, and the geese. Through the creeks that wind through the marsh, duck hunters' boats scare up scores of diving ducks. Little black and white buffleheads fly ahead of the boat just off the surface of the water, while mergansers and grebes take the underwater route of escape.

The hunters will probably be headed for a blind off the main channels that spiral through the marsh. They will head for the shallow ponds that dot the marshland behind the barrier islands, where the "quality" ducks, the blacks, mallards and infrequent pintails, congregate.

In winter, the marshes and barrier islands are alive with waterfowl. Brant gather by the hundreds off the offshore bars, and scoters and eiders bob up and down in the chop of the inlets that separate the marshes from the Atlantic. Canada geese and snow geese fly overhead, moving from the open water to feed in cornfields that rim the mainland adjacent to the marshes.

In the creeks are more buffleheads and mergansers, plus green-wing teal, goldeneye, scaup, and perhaps a pair of wide-billed shovellers. Marsh hawks flap and soar over the marsh, and stately blue herons line the edge of shallow ponds. Clapper rail, most of which are full time residents, send out their raucous call from the shelter of the thick spartina marshes.

Virginia's coastal saltmarshes are a prime wintering habitat for the waterfowl of the Atlantic flyway. The

shallow ponds in the remote marshes are one of the most important sanctuaries on the east coast for black ducks, and across the narrow peninsula of the Eastern Shore, in the Chesapeake Bay, most of the east coast's remaining populations of canvasbacks and redheads come to spend the winter.

In spring, as the weather warms, the waterfowl return north to raise their young in the marshes of northern Canada. And as the waterfowl leave, the summer birds come in to take their places. In April and May the family of gulls come in: laughing gulls, herring gulls, ring billed gulls, and others. Laughing gulls are the extroverts of the summer bird population. They have become very tolerant of humans and have learned that springtime flounder fishermen are a reliable source of leftover minnows and slices of squid. Dozens of the scavenging gulls will follow a fishing boat and deftly make aerial catches of minnows and other bits of leftover bait tossed by departing fishermen.

In May and June the terns, skimmers and oystercatchers come to nest on the sandy strips which separate the marshes from the ocean. Herons, egrets and ibises congregate in the marshes behind the islands, nesting in dense stands of marsh elder and bay myrtle. The remote islands and marshes are one of the prime breeding habitats for many of the summer birds on the east coast. A recent survey by The Nature Conservancy, the Arlington land preservation group which owns more than 35,000 acres on Virginia's coast, showed that many of the barrier islands are important nesting sites. In a single large heronry on a Northampton County island, a 1975 survey by Bill Williams counted 300 glossy ibises, 50 great egrets, 110 snowy egrets, four cattle egrets, 10 little blue herons, 68 Louisiana herons, 141 black crowned night herons, and 20 yellow crowned night herons. About 150 pair of skimmers and a large quantity of oystercatchers were also counted on the island.

Another survey by John Weske of U.S. Fish and Wildlife Service showed a large number of terns and skimmers. Weske counted 1500 pairs of royal terns, 350 pairs of skimmers, 300 pairs of common terns, plus numerous gull billed terns, least terns, laughing gulls and herring gulls.

Virginia's saltmarshes, with The Nature Conservancy's 35,000-acre Virginia Coast Reserve on the Eastern Shore, are the most important sanctuary for migratory waterfowl on the mid-Atlantic coast. For the summer birds which nest here, and for the ducks and geese which winter here, the islands and marshes are one of the few remaining protected spots on the Atlantic flyway.

The Conservancy's local headquarters has a brochure available which highlights the Virginia Coast Reserve and its public use policies. Single copies are available from The Nature Conservancy, Nassawadox, Virginia, 23413.

The 1979 Conservation Short Course

The responsibility for the future of our environment rests with the children of the Commonwealth. Lack of knowledge and understanding can toll the death knell for our natural resources in the next century.

The Conservation Short Course, sponsored by the Virginia Resource-Use Education Council is an intensive, three-week course covering all aspects of Virginia's environmental resources. The course features sections on Geology, Marine Life, Soil and Water, Forestry, and Wildlife. Teachers come from various sources – colleges, and working professionals from state and federal agencies.

The course can be used for endorsement in Biology and for certificate renewal in Earth Science. Five quarter hours credit will be given for completion of the course at VPI & SU and three semester hours credit will be given at Virginia State College, Longwood College and the College of William and Mary. Graduate credit can also be obtained by previous arrangement.

A limited number of scholarships are available to Virginia teachers from funds provided by interested organizations. All Virginia teachers are eligible to apply. The application must be received by May 1, 1979.

Although designed primarily for teachers, the course is open to anyone interested in Virginia's environmental resources.

The course is invaluable to the teacher who wants to give students factual, complete and up-to-date information on a subject critical to all of us.

Photo by VIMS/SEA GRANT

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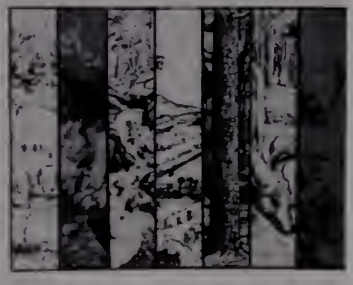

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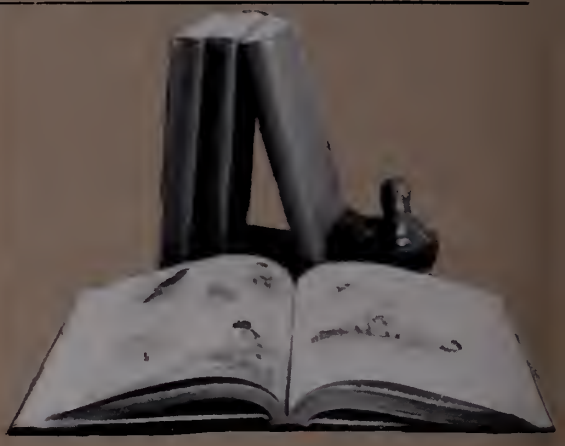
Outdoor Notebook

$1000 REWARD TO CURB ILLEGAL BEAR KILLING

A $1000 reward is being offered by the Virginia Wildlife Federation for information leading to the arrest and conviction of any person illegally killing a bear in Virginia. This includes bears killed out of season by use of spotlights or in excess of the bag limit or in any other illegal way.

Many sportsmen within the 16,000 members of the Virginia Wildlife Federation who hunt bear felt that such an inducement was necessary to protect the bear from unscrupulous hunters and to assure its survival. Having enjoyed bear hunting during their lifetimes, these hunters voted to take this step to insure that their children and grandchildren might enjoy it as well.

There have been rumors of many illegal bear kills in recent seasons. To report bear hunting violations, persons should phone information to Area Code 804-257-1000 in Richmond or 703-885-3707 in Staunton or 804-485-1126 in Norfolk. Written comments may be addressed to P.O. Box 11104, Richmond, VA 23230.



V.W. FOREVER

Ever want to look back on a fondly-remembered *Virginia Wildlife* article or look up a fact from a past issue only to find that you can't locate the magazine? There's a solution to your problem.

Limited numbers of bound volumes of *Virginia Wildlife* from the year 1977 are available for a cost of $6.50 each. The beautifully bound books provide the only permanent way to keep *Virginia Wildlife* in like-new condition — and in order!

Send your $6.50 to *Virginia Wildlife* Bound Volumes, P.O. Box 11104, Richmond, Virginia, 23230. Please make checks payable to Treasurer of Virginia. And hurry . . . supplies are very limited!

LAKE KEOKEE OPEN TO FISHING

After a number of unanticipated but necessary delays, the Commission's Lake Keokee in Lee County is open to public fishing. The lake is located a short distance from the village of Keokee on Forest Service land. The development and management of this 100 acre lake is a cooperative project carried on by the Virginia Game Commission and the U. S. Forest Service to provide fishing for people from the surrounding area.

Lake Keokee is stocked with largemouth bass, bluegills and channel catfish and is expected to provide good small lake fishing as the weather begins to cooperate. Due to the recent severe cold and heavy snow fall it is anticipated that the new road which was constructed to the lake may have some soft spots. Jack Hoffman of the Commission's Fish Division advises: "all fishermen visiting the lake are urged to keep this condition in mind and exercise good judgement on the access road."

Wildflower Walk

The Science Museum Association of Roanoke Valley announces the 10th Annual Spring Wildflower Pilgrimage to be held in the Roanoke Area on April 27, 28 & 29, 1979. The Pilgrimage includes lectures, wildflower walks, bird walks, and an art show. Keynote speaker will be the noted botanist and author, Dr. Randolph Shields.

Last year's pilgrimage attracted more than 11,000 participants.

For further information, call (703) 563-2891, or write: The Science Museum Association of Roanoke Valley, 2323 Overlook Road, N.E., Roanoke, Virginia 24012.

A NEW ROE KNIFE

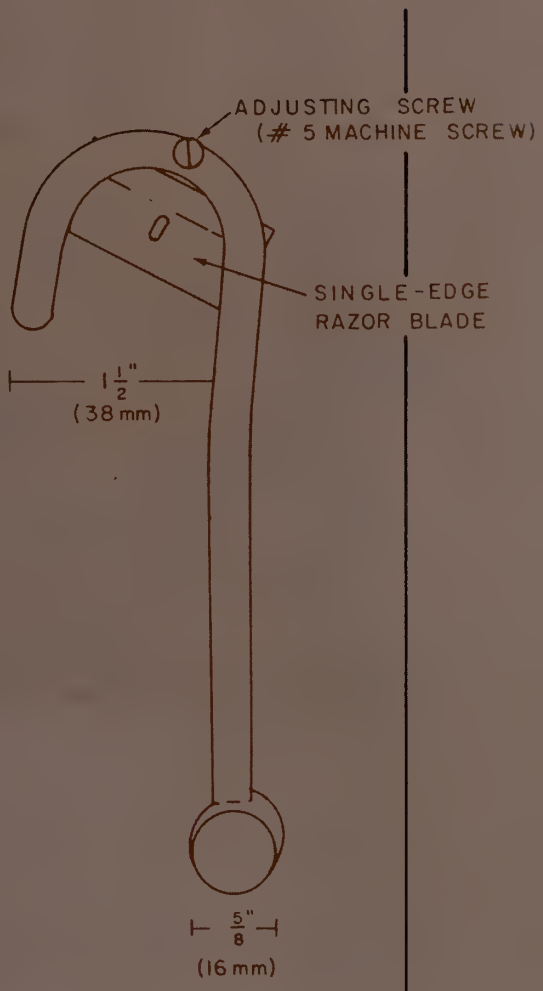
A knife designed exclusively for opening fish for roe removal may prove a boon to shad processors, in light of preliminary tests. The new knife is faster and more efficient to use than a conventional knife, and because of its unique blunt-end design, poses less of a threat to the fragile roe.

The "roe knife" was first brought to the attention of the Marine Advisory Services by personnel in the Division of Marine Fisheries at the Virginia Institute of Marine Science (VIMS) during the 1978 shad season. Several processors and fishermen, upon hearing of this new tool, asked for the chance to field test it. A few of the knives were produced locally to accommodate them. All who tried the roe knife were pleased with the results and plan to continue using it.

One processor said his crew of four could cut and remove the roe from 500 lbs. of shad per hour with the new knife. The same crew could only process 300 lbs. per hour using conventional knives. This processor attributes the increase in production to the shift in labor made possible by the new knife. Formerly, using conventional knives, three men would cut while a fourth removed the roe. Using the roe knife, one man cuts while three remove the roe. The cutter not only opens fish at a much faster rate, but does it with little or no roe damage. The knife is used by inserting the rounded "hook" tip into the gill opening of the fish and drawing it along the abdomen to the anal vent. The only portion that enters the body cavity is the smooth hook tip. Since the blade never contacts the roe, the cutting operation can proceed quickly and efficiently. An added benefit is that the cleaned shad carcasses maintain a fair market value because of the ventral location and neatness of the cut.

The roe knife consists of an 8" piece of 5/16" diameter stainless steel rod curved at one end to form a hook. A saw cut through the curved section of the rod allows the insertion of a conventional single-edged razor blade. The blade is exposed only within the curve. An adjusting screw runs perpendicular to the cut to hold the blade in position. A handle is attached through the rod to the end opposite the hook.

Processors feel the new knife is superior to conventional roe removal tools used on shad. It has not worked as well on river herring and alewives because of their smaller size. It might, however, find application to other larger species where roe removal is common, such as mullet.



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HEED THAT HITCH

It may take less fuel to tow your boat around to the other shore than to run her across the lake for a change of scene. This, plus the increasing cost of marinas, means that more of us are singing tow, tow, tow your boat.

Your boat and trailer may be stored under cover when you're not using them, but the trailer hitch on your car takes it on the chin all year 'round. Spend a few minutes now to check over that all-important link, before an unexpected breakdown or breakaway puts a hitch in your highway plans.

According to Bob Caldwell at Eaz-Lift, a hitch manufacturer, bolts should be checked regularly for signs of loosening from road vibration, and welds should be checked for cracks. I'd also recommend taking a good look at all parts of the hitch to make sure no brackets are bending or twisting. Look too at the car frame to make sure it isn't bent out of shape.

"Always keep the hitch ball well lubricated with grease," Caldwell goes on. This not only reduces wear but eliminates noise. "On weight distributing hitches, always keep spring bars coated with grease where they contact the ball mount," Caldwell goes on. He'll send you a free booklet on choosing and using a hitch if you write him at Eaz-Lift, P.O. Box 289, Sun Valley CA 91352.

Your hitch may have already been undercoated. If not, or to add even more rust protection, use a rustproofer. Brush it on flat surfaces, then thin it with an evaporative type solvent and put in an oiler to squirt into blind channels. It never hardens completely and remains self healing.

While you're checking the hitch, look at how it lies in relation to the exhaust. If it interferes with exhaust gas flow, it may be forcing noxious gases into the vehicle, or gases themselves may be corroding the hitch assembly. Make sure too that the hitch doesn't touch the gas tank. Moisture trapped between them can rust the tank.

When using a weight distributing hitch on trailers with surge brakes, Caldwell reminds us to make sure the chain on the spring bars is leaning forward towards the hitch ball, to insure that the braking system will work properly. Inspect the ball mount for proper height and tilt, and make sure the ball isn't loose or worn.

If you are using sway controls, which are required by law in some areas and are recommended in any case, make sure they are adjusted right. Look over chains too. They could have been damaged through stretching, or worn from dragging on the road.

One way to make sure your tongue won't get you into trouble is to put it into the right, the best and the most carefully maintained trailer hitch on the road.—*Gordon Groene*

In Nature's Garden

ARUMS

BY ELIZABETH MURRAY

Illustration by Lucille Walton

The *Araceae*, or arum family, ought to provide great inspiration for science fiction writers. The members of the family come in such bizarre shapes and their growth patterns are often so weird and unusual that they lend themselves to surrealist ideas. Enlarge a skunk cabbage or a species of *Arisaema* to the size of a building, populate it with a thirty foot praying mantis and a giant hickory horn devil, and you have a supernatural backdrop guaranteed to unnerve anyone.

We are more concerned here to look at a few members of the arum family in their natural settings and growing to their normal size. It is a large family, mainly tropical, with over a hundred genera and several thousand species. The flowers are frequently unisexual, have no bracts, and are massed onto a central structure called a *spadix* surrounded by a sheathing envelope called a *spathe*. It is the spate and spadix which contribute largely to the exotic appearance of the plants.

Jack-in-the-pulpit, *Arisaema sp.*, can be found in wet woods and boggy places in our Piedmont and coastal plain. I think the largest ones I ever saw were in a marvelously wild city park in Newport News. They were a good three feet high. Leaves of jack-in-the-pulpit are compound with three leaflets. Each leaf rises singly from the base of the plant rather proudly as if it was quite prepared to stand alone in the world and knew it was beautiful — which it is. There are usually two leaves on each plant, sometimes more. The spathe has staminate and pistillate flowers, the former maturing first, the latter developing eventually into a characteristic scarlet berry fruit. The spathe is convoluted at the base, then rises up to arch over the spadix in a graceful, triangular hood. The hood may be green or purple and shaded with paler stripes. There are several species of jack-in-the-pulpit and several varieties within each species. Many of the different types are capable of hybridization, so it is not easy to be totally precise in identification.

One species, however, that is clearly distinct from the others is the green dragon, *Arisaema dracontium*. There is usually only one leaf divided into five to fifteen pointed leaflets. The spadix is long and tapering, projecting well beyond the greenish, convoluted spathe. The berries, when they are first formed, are bright green, ripening to an orangey-red. The green dragon is found only sporadically in rich, alluvial woods, blooming in late spring and early summer.

The starchy roots of arums have been used since early times for making bread, although how many people have suffered along the way we cannot be sure. Most arum roots are poisonous when raw. They contain crystals of calcium oxalate which become embedded in mucous membrane, producing terrible burning sensations in the tongue and throat. The word *arum* comes from an Arabian word for *fire*. However, the crystals are largely destroyed by dry heat. Boiling seems not to do any good but if the roots of *Arisaema* are left to dry in the sun for several weeks they become mild and pleasant to the taste. Preparation is rather laborious, involving after drying, pulverizing, washing, straining and then drying again. However, despite the labor, *Arisaema* roots were used by the Indians as a source of flour.

The starch which can be washed out of the roots was used in Tudor times in England for stiffening courtiers' ruffs and frills, which may be the reason why the English species, *Arum maculatum*, is known as "Lords and Ladies." The origin of the name jack-in-the-pulpit is fairly obvious, the spadix could easily be delivering a sermon over the lip of the spathe.

A cousin of *Arisaema* is the famous arrow arum or *tuckahoe*, *Peltandra virginica*, whose use as an Indian food has received a great deal of attention because of the account of Captain John Smith. In 1626, Captain Smith described in the *Historie of Virginia* how he lived very well on tuckahoe bread, sturgeon meat and caviar, sorrel "and other wholesome herbs." My only gastronomic experience with *Peltandra* was not a success, but then I did not have a nice dish or caviar to go with it.

Whether one wants to be adventurous and try to prepare food from the plants, or whether one wants to explore the history of their use as foodstuffs, or cultivate the exotic ones, or simply go out and watch our own native species growing, the members of the arum family form an interesting group well worthy of our attention.

JOHN W. TAYLOR

BY JOHN W. TAYLOR

The Robin

The European robin, for which our American bird was named, is perhaps the best known, most loved bird in England. And wherever the English set foot as colonists, they insisted on calling some bird a robin. They managed to give the name to a half-dozen birds found in different parts of the world — no matter that the new species was quite different from its European counterpart.

The American robin is, for instance, a much larger bird, alike in neither voice nor habit. Though also a thrush, it is only distantly related. But it has the same reddish breast — and that was enough for the homesick settlers.

Mark Catesby, who first figured the American robin in his *Natural History of Carolina* (1731) called it the Carolina fieldfare. This name was also based on the bird's similarity to an Old World species. It was, from the scientific viewpoint, a more appropriate name, since the European fieldfare belongs to the same genus and is alike in color and behavior.

But the name given by the scientist did not prevail. The pioneer wanted a "robin" around the place, and he persisted until he had one. As in most cases of this kind, the name used by the common folk eventually became accepted terminology.

John Bartram, another colonial naturalist, referred in his writings to the "red-breasted thrush" and Thomas Nuttall's *Ornithol* (1840) lists, as alternative names for the American robin, the "migratory thrush" and "American fieldfare." Both Audubon and Wilson use the name American robin.

All of these early ornithologists mention the abundance and the backyard familiarity of the robin. It seems to have readily adapted to the clearings of the settlers and nested about their cabins. Its confiding nature made it a favorite of many then as it does today.

Yet the robin was originally a bird of the deep forests. It remains so today in parts of its range, especially in the far north and in other districts remote from human habitation. And in winter, all robins are woodland birds, forsaking the lawns and shade trees of suburbia for their ancestral homes.

Indeed, from early Autumn, when robins begin to roam the woods, until March, it is quite another bird. No longer is it the trusting neighbor that nested on our front porches and dug worms from our yards. It becomes shy, furtive, high-strung, and shuns the abode of man. If approached too closely, it flies away in alarm.

This Jekyll and Hyde transfiguration is partly the result of a change in food habits. Abandoning their summer staple of earthworms, robins collect in flocks and wander about in search of berries and fruits. Such vegetable matter is the basic food of robins until spring, and they concentrate where it is plentiful.

In the southern states, these wintering robins gather in large roosts to sleep. They collect in incredible numbers, and are easily killed when settled down for the night. Thousands were once killed daily for the market. The birds could be killed with clubs, and wagonloads were filled with their bodies, to be sold at five cents each. The practice flourished at the turn of the century; robins were for sale in city markets as late as 1913. There were large roosts at Norton and Big Laurel, Virginia in the 1930's, where they were slaughtered by the thousands.

Spring migration begins early. Robins can be seen flying north against the leaden skies of February. As the birds reach their home territories, there is a dramatic change in behavior. Forsaking the deep woods, they suddenly appear on lawns and in gardens, running about in search of worms. No longer nervous and wary, they are now tame and trusting.

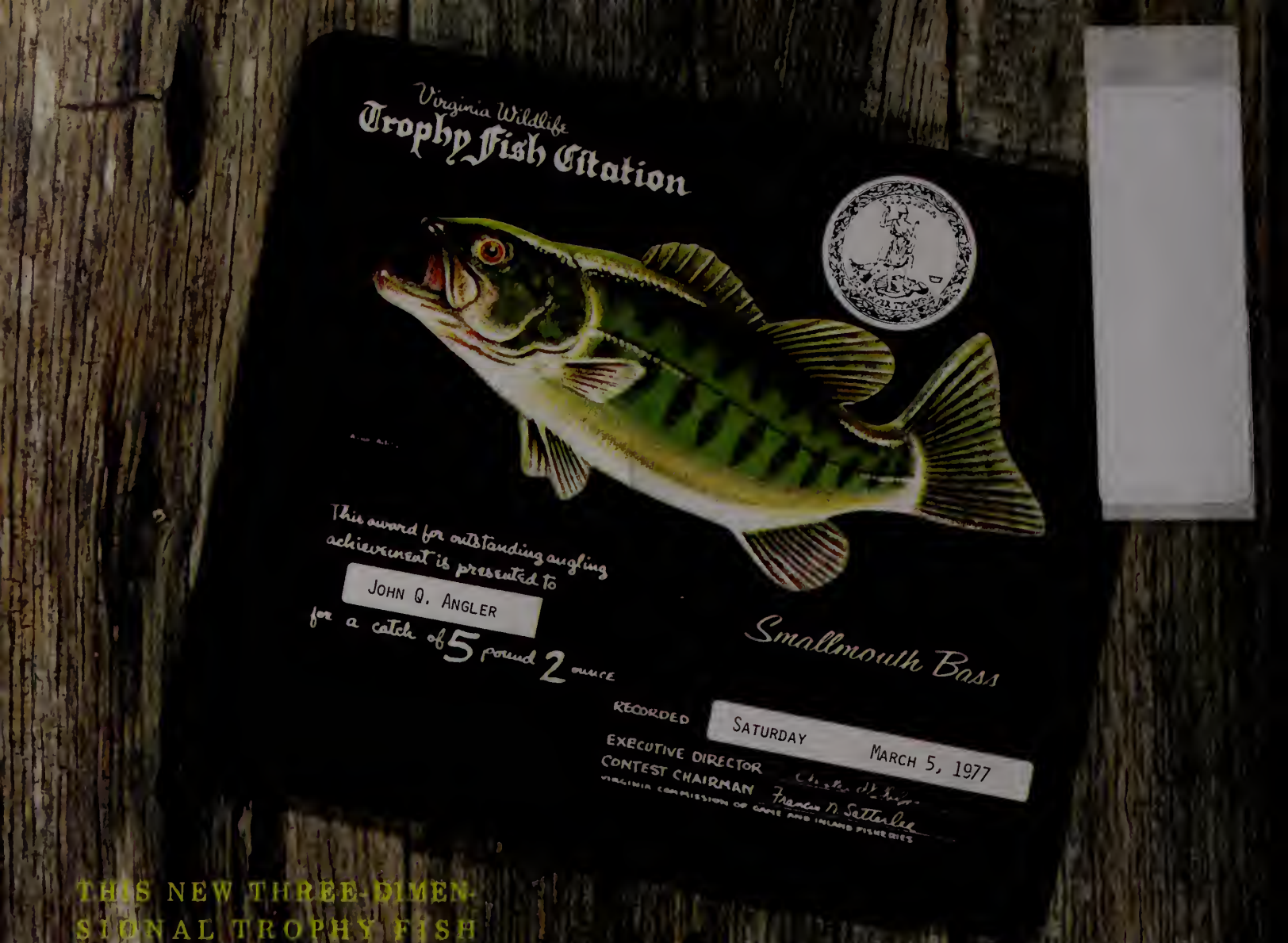
Earliest to arrive are the bright colored males; females show up a week or so later, setting off a frenzy of territorial battle and courtship activity.

Nestbuilding soon follows. In Virginia, many robins have completed nests by the end of March. By mid-April, some young birds are out of the nest (there is one Virginia record for fledged young on April 6). The height of the nesting period is over by mid-June, but fresh eggs have been recorded through August, since there are usually three broods. So by late summer, there is a new crop of scraggly, spot-breasted youngsters that seem to be everywhere.

The food given the young is largely of animal origin. Nestlings are fed caterpillars, locusts, beetles and cutworms, along with the ever-present earthworms. Second and third broods are sometimes fed cherries and other fruits as they ripen.

During most of this long nesting period, robins are in song, particularly at daybreak and at dusk. From early April through June the chorus is at its fullest, and only wanes with the heat of July. The song has not the poetic artistry of some thrush music, but is nevertheless full and round of tone, and with a pleasing sweetness. Were it not so familiar, so much the part of our spring and summer dawns, it would be more appreciated.

This painting is in the private collection of Dr. and Mrs. Herbert R. Boyd of Petersburg.



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THE NEW-STYLE AWARDS ARE NOW AVAILABLE FOR ALL FISH SPECIES LISTED TO THE RIGHT.

CONTEST RULES

Fish must be caught in Virginia waters by legal methods during seasons open for the taking of the species involved.

Fish must be weighed at a public scale that is periodically inspected by the Commonwealth of Virginia.

Photographs are desirable as further proof of authenticity but are not required.

Non-residents as well as residents are eligible for citations if fish are caught under the above conditions.

Applications must be submitted within 60 days of the catch to be eligible.

Record fish must be verified by an employee of the Commission of Game and Inland Fisheries.

HOW TO MEASURE LENGTH

1979-1980 CITATION SIZES

Largemouth Bass 8 lbs	Striped Bass 15 lbs	Other Trout 5 lbs.
Smallmouth Bass 4 lbs.	Pickerel . . 4 lbs.	Muskellunge . . 6 lbs.
Kentucky Bass . . 3 lbs.	Walleye . . . . 8 lbs.	Northern Pike . . 6 lbs.
Sunfish . . . . . 1 lb.	Yellow Perch . . . . 1 lb.	Channel Cat . . 10 lbs
Rock Bass . . . . 1 lb.	Brook or Brown	Flathead Cat . . 20 lbs.
White Bass . . . 2 lbs	Trout . . . . . 2 lbs.	Carp . . . . . 20 lbs.
White Perch . . . . 1 lb.	Coho Salmon . . 3 lbs	Gar . . . . . 10 lbs
Crappie . . . . 2½ lbs	Sauger . . . . . 3 lbs	Grindle . . . . . 10 lbs.

APPLICATION FOR VIRGINIA FRESHWATER FISH CITATION

Angler's Name (PRINT) _____

Address _____

City _____ State _____ Zip _____

Kind of fish _____ Weight ____ lbs. ____ oz.. Length _____ inches

Where caught _____ Date Caught _____

Weighed at _____ (store or other public scales)

Weighing witnessed by _____ , _____
Signature Address

How caught – Fly Rod ☐ Spinning Rod ☐ Casting Rod ☐
Trot Line ☐ Other _____

COMMISSION OF GAME AND INLAND FISHERIES
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